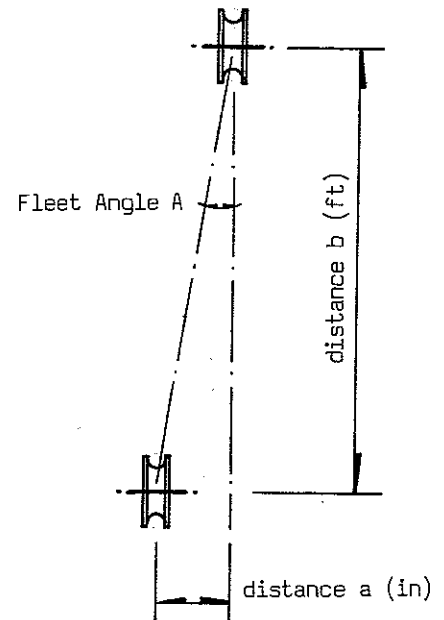


## FLEET ANGLES

**DEFINITION:** The angle between the centerline through a sheave and the centerline of the wire rope leading to a second sheave.

### DETERMINING FLEET ANGLES:

- A = Fleet angle of wire rope
- a = Distance in inches between two parallel lines drawn through two sheaves
- b = Distance in feet between the axles of two sheaves



**EXAMPLE PROBLEM:** Determine the fleet angle with the following given dimensions.

$$a = 3 \text{ in}$$

$$b = 20 \text{ ft}$$

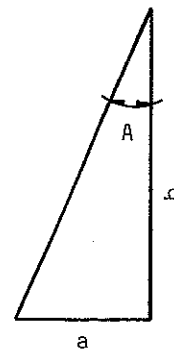
$$\tan A = \frac{a}{b}$$

$$= \frac{3 \text{ in}}{20 \text{ ft} \times 12 \text{ in/ft}}$$

$$= 0.0125$$

$$= 0.72^\circ$$

FLEET ANGLE ACCEPTABLE.





DISTANCE "A" IN INCHES

	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28
1	4.76	9.46	14.04	18.43	22.62	26.57	30.26	33.69	36.87	39.81	45.00	49.40	53.13	56.31	59.04	61.39	63.43	65.22	66.80
2	2.39	4.76	7.13	9.46	11.77	14.04	16.26	18.43	20.56	22.62	26.57	30.26	33.69	36.87	39.81	42.51	45.00	47.29	49.40
3	1.59	3.18	4.76	6.34	7.91	9.46	11.00	12.53	14.04	15.52	18.43	21.25	23.96	26.57	29.05	31.43	33.69	35.84	37.87
4	1.19	2.39	3.58	4.76	5.95	7.13	8.30	9.46	10.62	11.77	14.04	16.26	18.43	20.56	22.62	24.62	26.57	28.44	30.26
5	0.95	1.91	2.86	3.81	4.76	5.71	6.65	7.59	8.53	9.46	11.31	13.13	14.93	16.70	18.43	20.14	21.80	23.43	25.02
6	0.80	1.59	2.39	3.18	3.97	4.76	5.55	6.34	7.13	7.91	9.46	11.00	12.53	14.04	15.52	16.99	18.43	19.86	21.25
7	0.68	1.36	2.05	2.73	3.41	4.09	4.76	5.44	6.12	6.79	8.13	9.46	10.78	12.09	13.39	14.68	15.95	17.20	18.43
8	0.60	1.19	1.79	2.39	2.98	3.58	4.17	4.76	5.36	5.95	7.13	8.30	9.46	10.62	11.77	12.91	14.04	15.15	16.26
9	0.53	1.06	1.59	2.12	2.65	3.18	3.71	4.24	4.76	5.29	6.34	7.39	8.43	9.46	10.49	11.51	12.53	13.54	14.53
10	0.48	0.95	1.43	1.91	2.39	2.86	3.34	3.81	4.29	4.76	5.71	6.65	7.59	8.53	9.46	10.39	11.31	12.23	13.13
11	0.43	0.87	1.30	1.74	2.17	2.60	3.04	3.47	3.90	4.33	5.19	6.05	6.91	7.77	8.62	9.46	10.30	11.14	11.98
12	0.40	0.80	1.19	1.59	1.99	2.39	2.78	3.18	3.58	3.97	4.76	5.55	6.34	7.13	7.91	8.69	9.46	10.23	11.00
13	0.37	0.73	1.10	1.47	1.84	2.20	2.57	2.94	3.30	3.67	4.40	5.13	5.86	6.58	7.31	8.03	8.75	9.46	10.18
14	0.34	0.68	1.02	1.36	1.70	2.05	2.39	2.73	3.07	3.41	4.09	4.76	5.44	6.12	6.79	7.46	8.13	8.80	9.46
15	0.32	0.64	0.95	1.27	1.59	1.91	2.23	2.54	2.86	3.18	3.81	4.45	5.08	5.71	6.34	6.97	7.59	8.22	8.44
16	0.30	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.68	2.98	3.58	4.17	4.76	5.36	5.95	6.54	7.13	7.71	8.30
17	0.28	0.56	0.84	1.12	1.40	1.68	1.97	2.25	2.53	2.81	3.37	3.93	4.48	5.04	5.60	6.16	6.71	7.26	7.82
18	0.27	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	3.18	3.71	4.24	4.76	5.29	5.82	6.34	6.86	7.39
19	0.25	0.50	0.75	1.01	1.26	1.51	1.76	2.01	2.26	2.51	3.01	3.51	4.01	4.51	5.01	5.51	6.01	6.51	7.00
20	0.24	0.48	0.72	0.95	1.19	1.43	1.67	1.91	2.15	2.39	2.86	3.34	3.81	4.29	4.76	5.24	5.71	6.18	6.65
21	0.23	0.45	0.68	0.91	1.14	1.36	1.59	1.82	2.05	2.27	2.73	3.18	3.63	4.09	4.54	4.99	5.44	5.89	6.34
22	0.22	0.43	0.65	0.87	1.09	1.30	1.52	1.74	1.95	2.17	2.60	3.04	3.47	3.90	4.33	4.76	5.19	5.62	6.05
23	0.21	0.42	0.62	0.83	1.04	1.25	1.45	1.66	1.87	2.08	2.49	2.90	3.32	3.73	4.14	4.56	4.97	5.38	5.79
24	0.20	0.40	0.60	0.80	0.99	1.19	1.39	1.59	1.79	1.99	2.39	2.78	3.18	3.58	3.97	4.37	4.76	5.16	5.55
25	0.19	0.38	0.57	0.76	0.95	1.15	1.34	1.53	1.72	1.91	2.29	2.67	3.05	3.43	3.81	4.19	4.57	4.95	5.33
26	0.18	0.37	0.55	0.73	0.92	1.10	1.29	1.47	1.65	1.84	2.20	2.57	2.94	3.30	3.67	4.03	4.40	4.76	5.13
27	0.18	0.35	0.53	0.71	0.88	1.06	1.24	1.41	1.59	1.77	2.12	2.47	2.83	3.18	3.53	3.88	4.24	4.59	4.94
28	0.17	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.70	2.05	2.39	2.73	3.07	3.41	3.75	4.09	4.42	4.76
29	0.16	0.33	0.49	0.66	0.82	0.99	1.15	1.32	1.48	1.65	1.97	2.30	2.63	2.96	3.29	3.62	3.95	4.27	4.60
30	0.16	0.32	0.48	0.64	0.80	0.95	1.11	1.27	1.43	1.59	1.91	2.23	2.54	2.86	3.18	3.50	3.81	4.13	4.45

DISTANCE "B" IN FEET



DISTANCE "A" IN INCHES

	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28
31	0.15	0.31	0.46	0.62	0.77	0.92	1.08	1.23	1.39	1.54	1.85	2.16	2.46	2.77	3.08	3.38	3.69	4.00	4.30
32	0.15	0.30	0.45	0.60	0.75	0.90	1.04	1.19	1.34	1.49	1.79	2.09	2.39	2.68	2.98	3.28	3.58	3.87	4.17
33	0.14	0.29	0.43	0.58	0.72	0.87	1.01	1.16	1.30	1.45	1.74	2.02	2.31	2.60	2.89	3.18	3.47	3.76	4.04
34	0.14	0.28	0.42	0.56	0.70	0.84	0.98	1.12	1.26	1.40	1.68	1.97	2.25	2.53	2.81	3.09	3.37	3.65	3.93
35	0.14	0.27	0.41	0.55	0.68	0.82	0.95	1.09	1.23	1.36	1.64	1.91	2.18	2.45	2.73	3.00	3.27	3.54	3.81
36	0.13	0.27	0.40	0.53	0.66	0.80	0.93	1.06	1.19	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.18	3.44	3.71
37	0.13	0.26	0.39	0.52	0.65	0.77	0.90	1.03	1.16	1.29	1.55	1.81	2.06	2.32	2.58	2.84	3.09	3.35	3.61
38	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.01	1.13	1.26	1.51	1.76	2.01	2.26	2.51	2.76	3.01	3.26	3.51
39	0.12	0.24	0.37	0.49	0.61	0.74	0.86	0.98	1.10	1.22	1.47	1.71	1.96	2.20	2.45	2.69	2.94	3.18	3.42
40	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.95	1.07	1.19	1.43	1.67	1.91	2.15	2.39	2.62	2.86	3.10	3.34
42	0.11	0.23	0.34	0.45	0.57	0.68	0.80	0.91	1.02	1.14	1.36	1.59	1.82	2.05	2.27	2.50	2.73	2.95	3.18
44	0.11	0.22	0.33	0.43	0.54	0.65	0.76	0.87	0.98	1.09	1.31	1.52	1.74	1.95	2.17	2.39	2.60	2.82	3.04
46	0.10	0.21	0.31	0.42	0.52	0.62	0.73	0.83	0.93	1.04	1.25	1.45	1.66	1.87	2.08	2.28	2.49	2.70	2.90
48	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0.99	1.19	1.39	1.59	1.79	1.99	2.19	2.39	2.58	2.78
50	0.10	0.19	0.29	0.38	0.48	0.57	0.67	0.76	0.86	0.95	1.15	1.34	1.53	1.72	1.91	2.10	2.29	2.48	2.67
52	0.09	0.18	0.28	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.29	1.47	1.65	1.84	2.02	2.20	2.39	2.57
54	0.09	0.18	0.27	0.35	0.44	0.53	0.62	0.71	0.80	0.88	1.06	1.24	1.41	1.59	1.77	1.94	2.12	2.30	2.47
56	0.09	0.17	0.26	0.34	0.43	0.51	0.60	0.68	0.77	0.85	1.02	1.19	1.36	1.53	1.70	1.88	2.05	2.22	2.39
58	0.08	0.16	0.25	0.33	0.41	0.49	0.58	0.66	0.74	0.82	0.99	1.15	1.32	1.48	1.65	1.81	1.97	2.14	2.30
60	0.08	0.16	0.24	0.32	0.40	0.48	0.56	0.64	0.72	0.80	0.95	1.11	1.27	1.43	1.59	1.75	1.91	2.07	2.23
62	0.08	0.15	0.23	0.31	0.39	0.46	0.54	0.62	0.69	0.77	0.92	1.08	1.23	1.39	1.54	1.69	1.85	2.00	2.16
64	0.07	0.15	0.22	0.30	0.37	0.45	0.52	0.60	0.67	0.75	0.90	1.04	1.19	1.34	1.49	1.64	1.79	1.94	2.09
66	0.07	0.14	0.22	0.29	0.36	0.43	0.51	0.58	0.65	0.72	0.87	1.01	1.16	1.30	1.45	1.59	1.74	1.88	2.02
68	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.63	0.70	0.84	0.98	1.12	1.26	1.40	1.54	1.68	1.82	1.97
70	0.07	0.14	0.20	0.27	0.34	0.41	0.48	0.55	0.61	0.68	0.82	0.95	1.09	1.23	1.36	1.50	1.64	1.77	1.91
72	0.07	0.13	0.20	0.27	0.33	0.40	0.46	0.53	0.60	0.66	0.80	0.93	1.06	1.19	1.33	1.46	1.59	1.72	1.86
74	0.06	0.13	0.19	0.26	0.32	0.39	0.45	0.52	0.58	0.65	0.77	0.90	1.03	1.16	1.29	1.42	1.55	1.68	1.81
76	0.06	0.13	0.19	0.25	0.31	0.38	0.44	0.50	0.57	0.63	0.76	0.88	1.01	1.13	1.26	1.38	1.51	1.63	1.76
78	0.06	0.12	0.18	0.24	0.31	0.37	0.43	0.49	0.55	0.61	0.73	0.86	0.98	1.10	1.22	1.35	1.47	1.59	1.71
80	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.72	0.84	0.95	1.07	1.19	1.31	1.43	1.55	1.67

DISTANCE